

Application No. 10/632,805

Amendments to the Specification:

Please replace paragraph numbers [0086] and [0132] with the following paragraphs, respectively:

[0086] By knowing the effect on the pressure drop, the geometry of packed bed 108 can be chosen to meet the pressure drop requirements of a particular hood. For example, if separation cartridge 100 is used to replace a different type of filter in an existing hood, it may be undesirable to increase the pressure drop and thus decrease the amount of air that the hood is capable of handling. In order to prevent this from happening, the pressure drop of separation cartridge 100 may be designed to be similar to that of the filter previously used in the hood. This may be done by adjusting the parameters in the above equation to provide an acceptable multiplier factor. Of course, the variables shown in the Ergun equation may also be modified as well (e.g., width depth of the packed bed, media size, etc.).

[0132] Another exemplary embodiment of separation cartridge 100 may be made using the following procedure. Separation cartridge 100 includes baffle 106 and packed bed 108. Referring to Fig. 19, end caps 180 are machined out of flat 0.625 centimeter thick aluminum plate leaving trenches 182 to secure the pleated portion 184 of packed bed 108. Sides 186 and 188 are made out of flat 0.318 centimeter thick aluminum plate to hold end caps 180 together. Pleated portion 184 is made using aluminum perforated sheet metal that is 0.0762 centimeters thick and has 0.476 centimeter openings 198 with the sheet being 50% open. Aluminum wire cloth is cut slightly larger than the aluminum sheet so that the wire cloth can be attached to the sheet by wrapping approximately 0.625 centimeters over each side. The aluminum wire cloth has openings that are smaller than the media in order to prevent the media from leaking out of openings 198. After the wire cloth is coupled to the perforated sheet, it was formed into a rounded pleated shape using a punch and die. The pleated portion is assembled by coupling it to end caps 180. Media in the form of porous inorganic beads (e.g., ceramic beads, etc.) is then poured into pleated portion 184 through a filler opening in one of end caps 180 until all of the space has been filled. Pleated portion 184 is tapped periodically during the filling process to ensure that the media is tightly settled. The filler opening is tapped so that a setscrew can be placed in the opening to seal it after the bed has been filled. The width depth of the pleated portion 184 is approximately 0.635 centimeters.